CLAIMS

1. A method for controlling the flowability of polymer particles flowing downward in a densified form inside a polymerization reactor, in which one or more monomers are gas-phase polymerized in the presence of a polymerization catalyst, the density of solid (Kg of polymer per m^3 of reactor occupied by the polymer) being higher than 80% of the "poured bulk density" of the polymer, the method being characterized in that a liquid stream is continuously fed into the polymerization reactor at a mass flow rate per unity of reactor surface higher than 30 Kg/h m^2.
2. The method according to claim 1, wherein said liquid stream is fed at a flow rate per unity of reactor surface in the range from 50 to 200 Kg/h m^2.
3. The method according to any of claims 1-2, wherein said liquid stream is obtained from the condensation of a part of the fresh monomers to be polymerized.
4. The method according to any of claims 1-2, wherein said liquid stream comes from the cooling and condensation of the recycle gas stream.
5. The method according to claim 4, wherein said liquid stream contains, besides the monomers to be polymerised, also condensable inert compounds, selected from aliphatic hydrocarbons C_2-C_8.
6. The method according to any of claims 1-5, wherein the feeding of said liquid stream is equally distributed along the reactor by means of more feeding lines, the number of said feeding lines being an integer equal or higher than 0.2xH, where H is the height (expressed in meters) of the polymer bed inside the reactor.
7. The method according to claim 1, wherein said one or more monomers are α-olefins of formula CH_2=CHR, where R is hydrogen or a hydrocarbon radical having 1-12 carbon atoms.
8. The method according to any of claims 1-7, wherein said α-olefins are gas-phase polymerized in a first and in a second interconnected polymerization zones, where the growing polymer particles flow through the first of said polymerization zones under fast fluidization conditions, leave said first polymerization zone and enter the second of said polymerization zones through which they flow downward in a densified form, leave said second polymerization zone and are reintroduced into said first polymerization zone, thus establishing a circulation of polymer between said two polymerization zones.
9. The method according to any of claims 1-8, wherein said liquid stream is continuously

fed into said second polymerization zone.

10. The method according to any of claims 8-9, wherein the feeding of said liquid stream is equally distributed along the height of said second polymerization zone by means of more feeding lines, the number of said feeding lines being an integer equal or higher than 0.2xH, where H is the height (expressed in meters) of the polymer bed inside said second polymerization zone.